

## Updates to MRBCA for Petroleum Storage Tanks: Guidance Document, Computational Software, and Reporting Forms

| Date of change | Section or form set affected | Description of change  |
|----------------|------------------------------|--|
| 8/12/04        | Closure forms                | Missing language regarding mandatory attachments on Form CR-1 (2 of 3) was inserted.   |
|                | Section 6                    | On Figure 6.4, corrected units for $C_{su}$ to mg/L  |
|                | Appendix B                   | Page B-47, corrected units for $C_{sw}$ to mg/L  |
|                |                              |  |
| 6/29/04        | Tier 1 and 2 forms           | Changed Tier 1 default values, symbols, and units on Form 2-1(1) to be consistent with Table B-4 of the guidance and the computational software. Symbols changed: depth to subsurface soil source, lower depth of surficial soil zone, thickness of capillary fringe, foc content in vadose, and wind speed w/in breathing zone. Units changed: hydraulic gradient and wind speed w/in breathing zone. Values changed: volumetric water content in capillary fringe, volumetric air content in capillary fringe, total porosity in saturated zone, saturated zone dry bulk density, and foc in saturated zone. |
|                |                              |  |
| 4/30/04        | Section 7                    | RBTLs for TPH-DRO and ORO corrected in Tables 7-1(a), (b), and (c)   |
|                | Section 7                    | RBTLs for Cr updated for Cr(+3) and Cr(+6) in Tables 7-1(a), (b), and (c)  |
|                | Section 7                    | RBTLs for TPH-DRO and TPH-ORO updated for outdoor inhalation of vapors from groundwater pathway for construction worker in Table 7-1(c)  |
|                | Appendix B                   | RfDi for Cr(+3) updated from NA to 2.86E-05 in Table B-1   |
|                | Computational software       | RfDi for Cr(+3) updated from NA to 2.86E-05 on toxicological properties of COCs page   |
|                | Computational software       | RBTLs for TPH-DRO and TPH-ORO updated for outdoor inhalation of vapors from groundwater pathway for construction worker on Tier 2 Target Levels for Construction Worker page   |
|                | Computational software       | Date and version number on title page updated  |
|                |                              |  |
| 4/15/04        | Tier 1 and 2 forms           | Forms Tier 1-8(1-a), Tier 1-8(2-a), cells unprotected  |

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|            |                    |  |
|------------|--------------------|--|
|            |                    | to allow user input  |
|            | Tier 1 and 2 forms | Forms Tier 1-11(5) and Tier 1-11(6), alignment changed to eliminate overlap of date with text  |
|            | Tier 1 and 2 forms | Forms Tier 1-6(1) and (2), Tier 1-7(1) and (2), modification made to eliminate static value in off-site average and maximum calculations                         |
|            | Tier 1 and 2 forms | Title page, date changed to reflect most recent update date  |
|            | Closure forms      | Form CR-2, modification made to eliminate static value   |
|            | Closure forms      | Title page, date changed to reflect most recent update date  |
|            |                    |  |
| 3/24/2004  | Tier 1 and 2 forms | Form Tier 1-12(8), reference corrected to note appropriate complete pathway  |
|            | Tier 1 and 2 forms | Forms Tier 1-5 and Tier 1-10, footnote added to note that information not required at Tier 1   |
|            |                    |  |
| 3/22/2004  | Tier 1 and 2 forms | Forms Tier 1-12 (1 through 10), Tier 2-2 (1 through 10), changed units for groundwater target levels from ug/L to mg/L.  |
|            |                    |  |
| 3/18/2004  | Section 7          | Tables 7-1(a) and (b), TPH-GRO carbon ranges corrected for resident and non-resident direct contact with soil pathway  |
|            | Section 7          | Tables 7-1(a), (b), and (c) values updated based on saturated soil concentration and solubility where mole fraction not available to calculate effective values. |
|            | Closure forms      | Forms CN-2, CR-1 (3 of 3), cells unlocked  |
|            | Closure forms      | Forms CR-1 (2 of 3), cells merged at soil disposal information   |
|            |                    |  |
| 03/15/2004 | Tier 1 and 2 forms | Form Tier 1-2, cells merged at “% area”  |
|            | Tier 1 and 2 forms | Form Tier 1-3, first line unlocked at “Spill incident/other (describe)”  |
|            | Tier 1 and 2 forms | Form Tier 1-4, alignment made consistent   |

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|           |                                   |   |
|-----------|-----------------------------------|---|
|           | Tier 1 and 2 forms                | Form Tier 1-5, cells merged at “range of depth to water table” and “flow direction”           |
|           | Tier 1 and 2 forms, Closure forms | Forms Tier 1-6 (1 and 2), Tier 1-7 (1 and 2), Form CR-2, “refresh” button added               |
|           | Tier 1 and 2 forms                | Form Tier 1-8 (1), cell format modified   |
|           | Tier 1 and 2 forms                | Form Tier 1-8 (1), cells unlocked at “chemical”   |
|           | Tier 1 and 2 forms                | Form Tier 1-11 (3), “current” and “future” made visible                                       |
|           | Tier 1 and 2 forms                | Form Tier 1-12 (1 through 10), target level for lead corrected (unit conversion)              |
|           | Tier 1 and 2 forms                | Form Tier 1-12 (1 through 10), dermal contact pathway reference corrected                     |
|           | Tier 1 and 2 forms                | Forms Tier 1-12 (1 through 10), Tier 2-3, E/NE corrected                                      |
|           | Tier 1 and 2 forms                | Forms Tier 1-15, Tier 2-5, cells unlocked   |
|           |                                   |   |
| 3/12/2004 | Section 4                         | Section 4.4.3.3, pg. 4-10, added reference to Fig. 4-1  |
|           | Appendix F                        | Table F-1, corrected carbon ranges for TPH-GRO and TPH-DRO                                    |
|           | Section 5                         | Attachment A, Checklist #1, corrected spelling of karstic                                     |
|           | Appendix B                        | Pg. B-38, corrected definition of H (Henry’s Law Constant)                                    |
| 3/8/2004  | Appendix B                        | Page numbers corrected on Tables B-3 and B-4  |
|           | Section 4                         | Section 4.4.3.3, pg. 4-10, margins corrected  |
|           | Closure forms                     | Closure form page numbers corrected on Form CR-2  |
|           |                                   |   |
| 3/5/2004  | Section 7                         | Footer corrected to match header in Tables 7-1(e) and (f)                                     |
|           | Section 7                         | DAF values changed to match text in Table 7-1(f)  |
|           | Closure forms                     | Reference to cells corrected in Form CN-2 and Form CN-1(3 of 3)                               |
|           |                                   |   |
| 3/4/2004  | Tier 1 and 2 forms                | Merged cells to provide more space in Form Tier 1-2   |
|           | Tier 1 and 2 forms                | Logic between yes and no options corrected in Form Tier 1-2, Form Tier 1-3, and Form Tier 1-4 |
|           | Tier 1 and 2 forms                | Logic for aquifer type selection corrected in Form Tier 1-5                                   |

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|           |                    |   |
|-----------|--------------------|---|
|           | Tier 1 and 2 forms | Redundant references corrected in Forms Tier 1-6(1) and (2), Forms Tier 1-7(1) and (2), Forms Tier 1-12(3) and (8), and Forms Tier 2-2(3) and (8) |
|           |                    |   |
| 2/25/2004 | Section 4          | Corrected Figure 4-1  |
|           | Section 5          | Figures 5-3(a) and (b) added  |
|           | Section 5          | Figure 5-4(a) added   |
|           | Section 5          | Updated Laboratory Fact Sheet for TPH-GRO   |
|           | Section 5          | Updated Laboratory Fact Sheet for TPH-DRO and ORO   |
|           | Section 7          | Added Tables 7-1(e) and (f)   |
|           | Appendix B         | Added pages B-8 through B-48  |
|           | Appendix B         | Added Tables B-1, B-2, and B-4  |
|           |                    |   |
| 2/24/2004 | Tier 1 and 2 forms | Changed “compliance well” to “demonstration well” in column header on Form Tier 1-14(1) and (2) and Form Tier 2-3                                 |